



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,526	03/23/2004	Ilker Cengiz	MS307061.1	2509
27195 7590 12/26/2007 AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EXAMINER DAYE, CHELCIE L	
			ART UNIT 2161	PAPER NUMBER
			NOTIFICATION DATE 12/26/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com
hholmes@thepatentattorneys.com
osteuball@thepatentattorneys.com

Office Action Summary

Application No.

10/806,526

Applicant(s)

CENGIZ ET AL.

Examiner

Chelcie Daye

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-14,16,17,19,21-25,27-35 and 37-39 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1,3-4,6-14,16-17,19,21-25,27-35, and 37-39 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is issued in response to applicant's RCE filed October 31, 2007.
2. Claims 1-35 and 37-39 are presented. No claims added and claims 2,5,15,18,20,26, and 36 are cancelled.
3. Claims 1,3-4,6-14,16-17,19,21-25,27-35, and 37-39, are pending.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1,3-4,6-12,22-25,27-35, and 37-39, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wotring (US Patent No. 6,853,997) filed June 28, 2001,**

in view of Wang (US Patent No. 6,907,433) filed August 1, 2001, and further in view of Ludwig (US Patent No. 6,006,230) filed January 29, 1997.

Regarding Claims 1, 22, and 27, Wotring discloses a computer executable data structure comprising:

a first data structure that describes one or more classes which define programmatic objects (Fig.1, item 100; column 6, lines 34-40, Wotring)¹;

a second data structure that describes members of each class (Fig.1; column 6, lines 39-46, Wotring)²; and

a third data structure that describes relationships between objects (Fig.9; column 46-56, Wotring). However, Wotring is silent with respect to providing information that can be utilized by a computer to persist object data to a database. On the other hand, Wang discloses providing information that can be utilized by a computer to persist object data to a database (column 5, lines 54-61, Wang). Wotring and Wang are analogous art because they are from the same field of endeavor of mapping objects and relational information. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Wang's teachings into the Wotring system. A skilled artisan would have been motivated to combine as suggested by Wang at column 1, lines 59-62, in order to allow object to relational mapping without providing back-reference or direct attributes in the target objects. As a result, alleviating the intrusiveness

¹ Examiner Notes: 'Person' corresponds to a class.

of the object design. Therefore, the combination of Wotring in view of Wang, disclose an object schema being generated and utilized together with a relational schema and a mapping schema to map the programmatic objects to tables in the database (columns 4-5, lines 66-67 and 1-16, respectively, Wang); and

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with the database to generate an implementation specific format that represents the database structure (column 5, lines 17-29, Wang);

wherein members of a class include fields and properties (column 7, lines 33-40, Wotring). However, the combination of Wotring and Wang are silent with respect to an alias attribute to identify a public member that is to be utilized in place of a private member. On the other hand, Ludwig discloses an alias attribute to identify a public member that is to be utilized in place of a private member (columns 9-10, lines 66-67 and 1-4, respectively; column 14, lines 47-64, Ludwig). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Ludwig's teachings into the Wotring and Wang system. A skilled artisan would have been motivated to combine in order to allow the system to be more diverse and secure.

² Examiner Notes: 'Attributes' correspond to members.

Regarding Claims 3 and 25, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein a field includes a key attribute that defines whether the field is an object key (column 13, lines 53-58, Wotring).

Regarding Claim 4, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the properties include a path attribute that delimits the context of a class (columns 6-7, lines 64-67 and 1-17, respectively, and column 9, lines 50-53, Wotring).

Regarding Claims 6 and 28, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the members are compound members comprising members and other compound members (Fig.1; column 6, lines 45-52, Wotring).

Regarding Claims 7 and 29, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the compound member is an array (Fig.2; column 7, lines 48-50, Wotring).

Regarding Claim 8, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the compound member includes a type attribute that defines the type of data identified by the

compound member (Fig.4B, item 409; columns 9-10, lines 54-67 and 1-4, respectively, Wotring).

Regarding Claim 9, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the third structure includes a type attribute that defines relationships between objects (column 9, lines 14-22, Wotring).

Regarding Claims 10 and 30, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the relationship is one of one-to-one, one-to-many, or many-to-many (columns 5-6, lines 62-67 and 1-2, respectively, Wang).

Regarding Claims 11 and 24, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the database is a relational database (column 2, lines 63-66, Wotring).

Regarding Claim 12, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the data structure wherein the first, second and third data structures are XML structures (column 3, lines 34-34-39, Wotring).

Regarding Claim 23, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method wherein the classes represent objects defined by an object-oriented language (column 5, lines 50-53, Wang).

Regarding Claim 31, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method wherein specifying class relationships comprise specifying a parent class and a child class (column 5, lines 30-40, Wang).

Regarding Claim 32, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method further comprising specifying child members associated with the parent and child classes (column 6, lines 45-48, Wotring).

Regarding Claim 33, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose a computer readable medium having stored thereon computer executable instructions for carrying out the method (column 9, lines 58-67, Wang).

Regarding Claim 34, the combination of Wotring in view of Wang, disclose a method for generating an object schema comprising:

receiving program code that describes one or more classes which define objects (Fig.1, item 100; column 6, lines 34-40, Wotring);

describing members of each class (Fig.1; column 6, lines 39-46, Wotring);

receiving input from a developer (column 2, lines 54-62, Wotring);

generating an object schema to be employed to facilitate mapping object components from an object oriented program to tables in a relational database (column 5, lines 5-16, Wang), wherein the generated object schema is utilized together with a relational schema and a mapping schema to map the programmatic objects to tables in the database (columns 4-5, lines 66-67 and 1-16, respectively, Wang);

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with the database to generate an implementation specific format that represents the database structure (column 5, lines 17-29, Wang);

wherein members of a class include fields and properties (column 7, lines 33-40, Wotring); and

wherein the member properties include an alias attribute to identify a public member that is to be utilized in place of a private member (columns 9-10, lines 66-67 and 1-4, respectively; column 14, lines 47-64, Ludwig).

Regarding Claim 35, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method wherein the developer provides input via a graphical user interface (column 3, lines 7-10, Wotring).

Regarding Claim 37, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method wherein the schema is an XML schema (column 3, lines 34-39, Wotring).

Regarding Claim 38, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose the method wherein receiving input from a developer comprises identifying classes to be persisted and specifying relations amongst classes (column 5, lines 54-61, Wang).

Regarding Claim 39, the combination of Wotring in view of Wang, and further in view of Ludwig, disclose a computer readable medium having stored thereon computer executable instructions for carrying out the method (column 9, lines 58-67, Wang).

7. Claims 13-14, 16-17, 19, and 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US Patent No. 6,907,433) filed August 1, 2001, in view of Bigus (US Patent No. 7,136,843) filed October 23, 2002.

Regarding Claim 13, Wang discloses an object schema generation system comprising:

a code reader component adapted to read or retrieve code from an object-oriented program or set of programs (column 6, lines 23-25 and 41-56, Wang), the program describes objects via classes and class members (column 5, lines 5-16, Wang);

an object schema generation component that retrieves or is provided with code from the code reader component (column 5, lines 54-61 and column 6, lines 17-34, Wang), the object schema generation component produces an object schema in an extensible markup language (XML) which provides metadata concerning objects to facilitate persistence of object data to a data store (column 5, lines 30-40, Wang), such as a relational database (column 4, lines 58-59, Wang), wherein the generated object schema is utilized together with a relational schema and a mapping schema to map object data to tables in the data store (columns 4-5, lines 66-67 and 1-16, respectively, Wang);

wherein the mapping schema provides the mapping between the object schema and the relational schema (columns 4-5, lines 66-67 and 1-4, respectively, Wang), and the relational schema utilizes metadata associated with the data store to generate an implementation specific format that represents the data store structure (column 5, lines 17-29, Wang). However, Wang is silent with respect to the utilization of a rule based artificial intelligence to provide heuristics necessary to build the schema and code provided in real time. On the other

hand, Bigus discloses the utilization of a rule based artificial intelligence to provide heuristics necessary to build the schema (column 4, lines 17-28, Bigus) and code provided in real time (column 2, lines 21-29, Bigus). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Bigus' teachings into the Wang system. A skilled artisan would have been motivated to combine in order to provide an object-oriented framework, which allows for increased performance as needed by more complex applications.

Regarding Claim 14, Wang in view of Bigus, disclose the system further comprising a data store information component adapted to provide the schema generation component with information concerning the data store (column 5, lines 17-29, Wang).

Regarding Claim 16, Wang in view of Bigus, disclose the system wherein the program is specified in an object-oriented language (column 5, lines 50-53, Wang).

Regarding Claim 17, Wang in view of Bigus, disclose the system wherein the program contains a plurality of object classes and fields (column 5, lines 17-29, Wang).

Regarding Claim 19, Wang in view of Bigus, disclose the system wherein the object schema provides information concerning classes, members of classes, and their relationships (column 5, lines 5-16, Wang).

Regarding Claim 21, the combination of Wang in view of Bigus, disclose the system wherein the object schema generation component employs a Bayesian network to infer proper schema structures and relationships (columns 10-11, lines 61-67 and 1-4, respectively, Bigus).

Response to Arguments

Applicant's arguments with respect to the newly amended claims have been considered but are moot in view of the new ground(s) of rejection.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

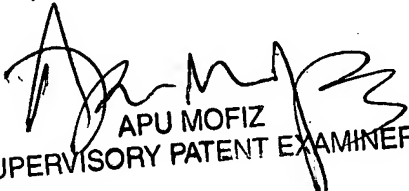
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/806,526
Art Unit: 2161

Page 13

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye
Patent Examiner
Technology Center 2100
December 17, 2007


APU MOFIZ
SUPERVISORY PATENT EXAMINER